THE IDENTITY OF *AEOLOTHYNNUS* ASHMEAD AND NOTES ON *ISWAROIDES* ASHMEAD (HYMENOPTERA: TIPHIIDAE: THYNNINAE)

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Abstract

Asthenothynnus Turner is newly synonymised with Aeolothynnus Ashmead (not Aeolothynnus, Turner) and diagnoses given for Aeolothynnus and Iswaroides Ashmead (=Aeolothynnus, Turner). Species of Aeolothynnus and Iswaroides are listed; most are new combinations. A lectotype is designated for Iswaroides koebelei Ashmead.

Introduction

Ashmead (1899, 1903) revised the Thynninae (then at family rank) and, in so doing, erected several new genera including *Aeolothynnus* Ashmead and *Iswaroides* Ashmead. However, his descriptions were poor and limited to keys (without further comment, description or illustration) in which the couplets were not specific and neither adequately nor unambiguously defined genera. He considered that both genera were monotypic and made no distinction between generic and specific descriptions so that his description of *A. multiguttatus* Ashmead is also that of *Aeolothynnus* and *I. koebelei* Ashmead that of *Iswaroides*.

Because of the inadequacy of Ashmead's (1903) descriptions, these genera have been misidentified by most subsequent authors, including Turner (1910) in the last revision of the subfamily. Turner was unable to recognise either genus correctly and placed species of *Iswaroides* in *Aeolothynnus* (*sensu* Turner, not Ashmead) and species of *Aeolothynnus* (*sensu* Ashmead) in a new genus *Asthenothynnus* Turner.

Whilst *Aeolothynnus* (*sensu* Turner) was synonymised with *Iswaroides* by Given (1960) and the identity of *Aeolothynnus* Ashmead discussed, no consideration of the similarity between *Aeolothynnus* and *Asthenothynnus* was given.

Iswaroides is not similar to *Aeolothynnus* and is most readily distinguished from the latter by the presence of posterolateral spines on the fifth tergite in the male, plus the absence of a sagittal sulcus on the pronotum in the female. Some consideration of the generic relationships of *Aeolothynnus* and *Iswaroides* are given by Brown (1997 a, b).

The most recent key to genera is that of Turner (1910), although some generic names were used incorrectly. These have been changed as follows: *Aeolothynnus* synonymised with *Iswaroides* by Given (1960); *Glaphyrothynnus* Turner synonymised with *Zeleboria* Saussure by Rohwer (1910a); *Oncorhinus* Shuckard changed to *Oncorhinothynnus* by Salter (1954): *Tachynothynnus* Turner synonymised with *Guerinius* Ashmead by Rohwer (1910a); and *Zeleboria* (sensu Turner) renamed *Neozeleboria*

Rohwer (1910a). The synonymy of *Asthenothynnus* and *Iswaroides* are discussed further below.

Institutional abbreviations: BMNH, The Natural History Museum, London; SAM, South Australian Museum, Adelaide; USNM, United States National Museum, Washington.

Aeolothynnus Ashmead (Figs 1-6)

Aeolothynnus Ashmead, 1903: 101; Given, 1954: 22; Given, 1960: 400. Type species Aeolothynnus multiguttatus Ashmead, by monotypy.

Aelothynnus Rohwer, 1910a: 348. Incorrect subsequent spelling.

Asthenothynnus Turner, 1910: 34; Given, 1954: 27; Salter, 1954: 292. Type species Thynnus pulchellus Klug, by original designation. Syn. nov.

Material examined. Aeolothynnus multiguttatus: paralectotype of, Australia, Koebele (USNM) [Lectotype of in USNM, here designated, same data as paralectotype; not examined]. Thynnus pulchellus: 1 of, Port Lincoln, South Australia, Lea (SAM) [identified by R.E. Turner, the type having been lost (F. Koch, pers. comm.)].

Discussion. After an examination of the paratype, Ashmead's (1903) description of the male is summarized as follows: hypopygium trispinose with middle spine slightly longer (couplets 1, 2, 3, 7, 16) and long and narrow with lateral margins subparallel (couplet 7); clypeus produced, trapezoidal with the apical margin truncate (couplet 17). This does not define the genus exclusively and at least some species of *Aspidothynnus* Turner, *Asthenothynnus*, *Doratithynnus* Turner, *Encopothynnus* Turner, *Iswaroides* and *Tmesothynnus* Turner fit this description equally well.

The hypopygium and genitalia are distinctive in the type species of *Aeolothynnus*. The hypopygium is subparallel with a relatively small apical spine and even smaller spines at the lateral angles, which are near the end of a U-shaped carina surrounding a depression on the ventral surface of the hypopygium (Figs 1, 4). The genitalia have the basiparameres large and broad and the parameres relatively short, so that the genitalia appear suborbicular. These characters also occur in the type species of *Asthenothynnus*, *Thynnus pulchellus* Klug. Although the shape of the hypopygium and the extent to which the ventral carina and depression are developed vary, I can see no morphological reason to separate these two groups and therefore consider that *Asthenothynnus* should be synonymised with *Aeolothynnus*.

The genitalia of *Aeolothynnus multiguttatus* are illustrated in Figs 2-3 (although the basal ring is hidden by the apex of the metasoma, which has been damaged; this would be more so if the genitalia were fully exposed); those of *Aeolothynnus pulchellus* in Figs 5-6.



Figs 1-6. Aeolothynnus spp. (1-3): A. multiguttatus Ashmead, male: (1) sternite 8; (2) genitalia, lateral view; (3) genitalia, dorsal view. (4-6): A. pulchellus Ashmead, male: (4) sternite 8; (5) genitalia, lateral view; (6) genitalia, dorsal view. Scale line = 0.2 mm. P = paramere; B = basiparamere; R = basal ring.

Diagnosis. Male: clypeus convex medially and at level of antennal prominence, not carinate; metasoma relatively smooth and polished, segments not strongly sclerotised or constricted; epipygium convex becoming membranous posteriorly, without carinae or projections; hypopygium with apex weakly concave dorsally, more or less flat apically, rounded or triangular or truncate with a small apical spine, angles of truncation may be subspinose (never spinose basally); paramerebasiparamere suture incomplete; basiparameres large and suborbicular; parameres small, often subtriangular.

Female: pronotum impunctate, sagittaly sulcate; T2 with four transverse carinae; S5 punctate; pygidium at least two times longer than wide and slightly widened towards the apex.

Included species. Twenty-seven species are included; all except A. multiguttatus are new combinations formerly included in Asthenothynnus. Previously recognised synonyms are included in brackets.

Aeolothynnus beatrix (Turner); A. decoratus (Smith); A. deductor (Turner); A. exiguus (Turner); A. generosus (Turner); A. incensus (Smith); A. innocuus (Turner); A. kurandensis (Turner); A. lactarius (Turner); A. leucostictus (Turner); A. lilliputianus (Turner); A. maritimus (Turner); A. minutissimus (Turner); A. minutus (Smith); A. multiguttatus Ashmead; A. penetratus (Smith); A. perkinsi (Turner); A. planiventris (Turner); A. pleuralis (Turner); A. pulchellus (Klug) (=Thynnus multipictus Smith); A. pulcherrimus (Turner); A. pygmaeus (Turner); A. quadricarinatus (Saussure); A. rubromaculatus (Turner); A. tenuis (Turner); A. vicarius (Turner); A. westwoodi (Guérin) (=Thynnus intricatus Smith; =Thynnus longiceps Smith; =Thynnus nanus Smith).

Iswaroides Ashmead

Iswaroides Ashmead, 1899: 50; Ashmead, 1903: 98, 104; Turner, 1910: 55; Salter, 1954: 312; Given, 1954: 42. Type species Iswaroides koebelei Ashmead, by original designation.

Aeolothynnus, Turner (not Ashmead), 1910: 39. Misidentification.

Turnerella Rohwer, 1910a: 349. Nom. nov. for Aeolothynnus, sensu Turner.

- *Thynnoturneria* Rohwer, 1910b: 474; Salter, 1954: 297; Given, 1954: 59; Given, 1960: 402 (syn.). Type species *Thynnus (Agriomyia) cerceroides* Smith, by original designation.
- Eurohweria Turner, 1911: 608. Replacement name for Turnerella Rohwer (preoccupied by Turnerella Cockerell).

Material examined. Iswaroides koebelei: lectotype O' [here designated], paralectotype 9, Australia, A. Koebele (USNM). Thynnus cerceroides: holotype O', Australia (BMNH). *Diagnosis. Male*: apex of epipygium with a single, transverse apical carina; posterolateral angles of S6 spinose and longer than those on S5 (when present).

Female: S5 punctate; mesopleura without a dorsal surface; T2 with either two or four transverse carinae; pronotum not sagittally sulcate, not medially tuberculate; pygidium long, narrow and arched at base; head constricted.

Included species. Twenty-four species are included. Although Given (1960) discussed the synonymy of *Iswaroides*, no species were formally placed in this genus other than the type species. With the exception of *I. koebelei* and *I. heinricheri*, all are new combinations formerly included in *Thynnoturneria*. *Iswaroides heinricheri*, comb. nov., was formerly included in *Thynnus*. Previously recognised synonyms are included in brackets.

Iswaroides ablatus (Turner); I. armiger (Turner); I. aterrimus (Smith); I. baccatus (Smith); I. centralis (Turner); I. cerceroides (Smith) (=Thynnus perelegans Smith); I. compressiceps (Turner); I. crenulatus (Turner); I. decipiens (Westwood); I. heinricheri (Dalla Torre) (=Thynnus dimidiatus Westwood*); I. eyrensis (Turner): I. halophilus (Turner); I. illustris (Kirby); I. immitis (Turner); I. koebelei Ashmead; I. lachrymosus (Turner); I. myola (Turner); I. pentadontus (Turner); I. perturbatus (Turner); I. sanguinolentus (Turner); I. saundersi (Turner); I. trimaculatus (Turner); I. umbripennis (Smith); I. xerophilus (Turner).

* The trivial name *dimidiatus* Westwood has been used for this species in catalogues by Turner (1910), Given (1954) and Salter (1954) but, under Article 59b of the International Code of Zoological Nomenclature (1985), *dimidiatus* Westwood was replaced due to secondary homonymy prior to 1961 by Dalla Torre (1897) and is therefore permanently invalid. The replacement name *heinricheri* Dalla Torre is correct.

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